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American Association of Zoo Keepers, Inc.

The American Association of Zoo Keepers, Inc. exists to advance excellence in the animal keeping profession, foster effective communication beneficial to animal care, support deserving conservation projects, and promote the preservation of our natural resources and animal life.

About The Cover

This month's cover features the portrait of a polar bear cub (*Ursus maritimus*) snuggled next to its mother near Churchill, Manitoba, Canada. The photo was taken by ©Daniel J. Cox/NaturalExposures.com. Daniel Cox is an Advisory Council Member for Polar Bears International, a Conservation Partner of AAZK. To learn more about polar bears, go to polarbearsinternational.org.

Polar bears are frequently in the news. The Arctic is warming, sea ice is melting, and the topic of climate change continues to stir debate between believers and deniers. However, everyone seems to agree that we as humans enjoy fresh air and clean water, and this can be traced to living more sustainably. Aquariums and zoos have embraced this concept and collectively the vision is for our institutions to be the sustainability hubs in our local communities.

AAZK has always been part of this Green Movement. On P. 465 you will find details about Trees for You and Me, the reforestation program that AAZK and PBI co-created to help in the effort to save polar bears. On P. 470 you will find the most recent column from *Conservation Station*, our regular column that features all of the great work being done by our members and national Conservation Committee. Finally, on P. 462, you will find an article on interpretation, because often the most important thing you do during your day is talk to our zoo visitors. You educate, inspire, and empower our visitors to take actions that will help save the species we all care so deeply for, each and every day. Thanks for everything you do!

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for **AKF**. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the Editor. The Editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone, fax or e-mail contributions of late-breaking news or last-minute insertions are accepted as space allows. Phone (330) 483-1104; FAX (330) 483-1444; e-mail is shane.good@aazk.org. If you have questions about submission guidelines, please contact the Editor. Submission guidelines are also found at: aazk.org/akf-submission-guidelines/.

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ANIMAL KEEPERS' FORUM

TO CONTACT THE AKF EDITOR:

Shane Good, Media Production Editor
P.O. Box 535, Valley City, OH 44280
330-483-1104
shane.good@aazk.org

AAZK Administrative Office

American Association of Zoo Keepers
8476 E. Speedway Blvd.
Suite 204
Tucson, AZ 85710-1728
520-298-9688 (Phone/Fax)
E-mail: Ed.Hansen@aazk.org
Chief Executive/Financial Officer: Ed Hansen

MEDIA PRODUCTION EDITOR

Shane Good

ASSISTANT MEDIA PRODUCTION EDITOR

Elizabeth Thibodeaux

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"We few, we happy few, we band of brothers..."

William Shakespeare

Every year, during the first weekend in November, I join my family in the celebration of the birthday of the United States Marine Corps. A time-honored tradition, it is a gala complete with formalities as old as the Corps itself. As an active duty Marine, my father donned his dress blues, complete with ribbons from two campaigns and celebrated with his fellow Marines. For 43 years he joined his comrades in a formal commemoration of not just tradition but of the esprit de corps; the cohesive passion and pride of their profession. Now a retired Marine, my father still attends this celebration, his tuxedo proudly displaying his medals. But his attendance to this gala is not a celebration of the gathering of old friends, but rather the observance of the spirit of their profession and the remembrance of those who made great sacrifices.



I was a young adult when I was first invited to attend this event. And as one who never stepped into a pair of spit-polished boots, I had trouble identifying with the depth of commitment, passion, and loyalty that these Marines displayed. I marveled, however, at the pomp and circumstance of the call to colors and the ceremonial slicing of the cake with the Mameluke sword; witnessing this event through the eyes of a mere bystander.

But I confess that the past two years have been different for me. When I hear the speeches honoring a profession that recognizes a deep dedication and loyalty to a cause, one that embodies some form of personal sacrifice for a common goal, my mind and my heart are taken to a different place. As I sit in a room full of uniformed men and women who are honored as the great protectors, working selflessly for the good of the cause, I join them in their pride and passion. I join them because I too work in a profession whose members are elite, dedicated, and selfless in their commitment to the preservation of a cause. And like my father and his band of brothers, the skills we acquire are meaningless without dedication to our primary objective.

It is not my intention to draw direct parallels between these two professions; there are a great many differences in what we do. Instead, I hope to share with you a special focus, one that I experience during each and every AAZK conference that I attend. The hard work that we endure, the early hours and missed holidays, the overnight shifts caring for sick animals, while working in every kind of climate imaginable are all obstacles that we overcome because of our overwhelming passion and commitment. And yet, these burdens are not what we focus on when we gather at our Chapters and our conferences. Instead, we honor our profession through the celebration of advances in animal care and our progression towards protecting endangered wildlife and their habitat.

I may not be perfect at what I do, challenged sometimes by the complexities and unforeseen variables of my job. And I may not always have the right tools to complete my tasks, but I take comfort in the fact that there are those around me who, seeing the bigger picture and end result, will be there for me when I seek help. I find that support at work and within this Association. As a member of the leadership at both my institution and this Association, I hope that I am successful in providing that support when called upon. Guiding others to success defines leadership in its simplest form. In our business, success is about effectively providing for the welfare of the animals under our care and being instrumental in the protection of their counterparts in the wild. This leadership, this common spirit inspires enthusiasm, devotion, and pride and defines the esprit de corps of our profession. We few, we happy few, we band of brothers.

As always, I welcome your thoughts and input. E-mail me at bob.cisneros@aazk.org, I would love to hear from you.

Bob Cisneros



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upcoming
events
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COMING EVENTS

February 5-8, 2014
**22nd Annual International
Association of Avian Trainers
and Educators Conference**
Dallas, TX 2014: Texas Fly 'Em
For more information go to:
IAATE.org



March 10-13, 2014
**AZVT (Association Zoo
Veterinary Technicians) Focus
Group: The Art and Science
of Hand-Rearing** Santa Rosa,
CA. The workshop concentrates
solely on hand-rearing of zoo
carnivore and ungulate species.
For details contact: Gail Hedberg
at ghedberg@safariwest.com.

March 15-19, 2014
Otter Keeper Workshop
Denver, CO
Hosted by Denver Zoo and
Denver Downtown Aquarium.
For more information go to:
otterkeeperworkshop.org.

March 22-28, 2014
AZA Mid-Year Meeting
Memphis, TN
For more information go to:
AZA.org/midyearemeeting.

April 13-18, 2014
**ABMA's 14th Annual
Conference**
Dallas, TX
For more information go to:
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August 4-7, 2014
**12th Annual Symposium on
the Conservation and Biology
of Tortoises and Freshwater
Turtles**
Orlando, Florida
For more information, go to
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September 8-12, 2014
AAZK National Conference
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For more information go to:
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October 6-8, 2014
**3rd International
Flamingo Symposium**
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For more information contact
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Need Help? Ed.Hansen@AAZK.org

Moving?

Don't miss one issue of your AKF and help save AAZK money in returned/forwarding postage costs!

Simply log on to AAZK.org and update your membership information.



The AAZK Board and Staff thanks the following AAZK Chapters that donated towards the AKF in their 2013 re-charter packets:

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Your donations help us to keep improving the AKF. We look forward to an exciting 2014! Thanks for your support!

Communication Committee Seeks Members

Looking for the opportunity to help further the mission of the American Association of Zoo Keepers? The newly formed Communication Committee is seeking professional members to join our task force to continue to move the organization forward in achieving our mission.

We are looking for people interested in all facets of communication including social media, dispersing information to the membership that will continue to support the growth and professionalism of AAZK, and networking between all AAZK committees.

For those interested please send your resume with cover letter to deana.walz@aazk.org by January 15, 2014.



Barbara Manspeaker

AAZK Administrative Secretary 1984 - 2013

Barb and I had known each other for a number of years before we became co-workers since our daughters, Mandy and Rachael, had started kindergarten together. Over the years we had served as Room Mothers, field trip supervisors, Girl Scout leaders and had become close friends. When the position opened up at AAZK, I contacted Barb and said "How would you like to work at the Zoo?"

Beginning in 1980, the AAZK Administrative Office had been moved from the National Zoo in Washington, DC to the Topeka Zoo where it was housed above the commissary in what had once been a night keeper's apartment. Accommodations were not luxurious, mice and cockroaches were plentiful, but it came "rent-free" courtesy of then Zoo Director Gary K. Clarke. For a nonprofit such as AAZK, you couldn't do much better.

In 1984 when Barbara Manspeaker took over as AAZK Administrative Secretary, things were very different from how the office now operates. She inherited six small file boxes filled with 3 x 5 inch index cards that were the membership record keeping system at the time. It wasn't until she had been there over a year before the Association took the plunge, secured a loan from a local Topeka bank, and purchased the first computer equipment for managing AAZK business and producing *Animal Keepers' Forum*.

To say that Barb's job was one of "multi-tasking" would be an understatement. As the Association grew over the years, Barb's list of duties expanded in response to new programs and policies established by the Board of Directors. A partial list of her responsibilities would include: processing all memberships, updating all address changes as needed, keeping all of AAZK's financial books and paying bills, working with Patty Pearthree on Bowling for Rhinos finances, helping keepers interested in forming an AAZK Chapter through the chartering process, working with the IRS and other government agencies to make sure AAZK was in compliance with all regulations to maintain its nonprofit 501c(3) status, filing taxes, sending out the monthly international and Canadian issues of *AKF*, annually re-chartering all of the Association's 75+ Chapters (currently 96 Chapters) that included filing for each Chapter with the Internal Revenue Service, packaging and mailing orders for everything from AAZK conference proceedings and special subject publications to logo sweatshirts, hats, etc. At conference time, Barb was the



one who packaged up all the items to be sent to the meeting site, and for a number of years was also one of those who staffed the AAZK table in the exhibitors' room. Barb's job had many aspects and she performed them all with great competence and dedication.

If you ever had occasion to call the AAZK Office, you would likely have heard "American Association of Zoo Keepers, this is Barbara. May I help you?" Barb was really great at member services—always going the extra mile to answer a question, seek out a resource, or help a member with a problem.

There were many highlights of our time in the office together — some funny, some frustrating, some highly rewarding and some emotionally challenging. Getting along well with one's co-worker (especially in a two-person office) is really nice, but getting to work alongside my best friend for so many years was truly a pleasure for me. In fact, not seeing Barb everyday is probably one of the few things I am not enjoying about my retirement.

Animals (especially exotic ones) were not really Barb's "thing" when she first started work at AAZK. Barb was also not much of a fan of mice. Apparently our office cat Orca knew this, as she would quite often leave the mouse she had killed the night before on Barb's chair to greet her as she came in to work. It took both Barb and I awhile to adjust when, because our zoo building was being demolished, we had to find office space off the zoo grounds. No more mice. No more roaches. Someone took out the trash and cleaned the office once a week. Quite a change from the early years—but we both had to admit we really missed being able to look out our zoo office window and see the elephants playing in their yard.

As Barb's tenure as AAZK Administrative Secretary closes after 29 years on the job, she looks forward to spending more time with Terry, her husband of 42 years who recently retired from UPS. They also plan to spend time with their daughter Mandy, son Chad and grandchildren Stella, Lily, Maggie, Noah and Hank.

The AAZK membership and the Boards of Directors under which Barbara has worked certainly were lucky that when I asked if she wanted to come and work at the zoo, Barbara said "Yes!"

Enjoy your retirement, Barb. You've earned it.

Susan Chan
AKF Editor, retired

A large aquarium tank filled with various fish, including a large striped fish and many smaller blue and yellow fish. The silhouettes of several people are visible in the foreground, looking into the tank. The background is dark, and the fish are brightly lit.

Best Practices in Zoo Interpretation

Paul Eberhart • Senior Keeper
Brookfield Zoo

The modern zoo has a wide array of missions to accomplish. While many members of the public see zoos and aquariums as simply venues for entertainment, they hold immense educational value that is not always utilized to its maximum potential. Not only do they offer access to animals for people who would otherwise never have the opportunity to see them in person, but they contain signage and other information to communicate natural history facts and conservation issues. Through these types of 'passive' education, zoo visitors have been shown to have a greater base of animal knowledge than other members of the general public (Mallapur, 2008). However, in addition to 'passive' types of education, zoos and aquariums are constantly improving the ways in which they interact with and engage zoo visitors, through experiences such as keeper chats and hands-on encounters.

While institutions must certainly provide an enjoyable and entertaining experience for families, it is generally accepted that the main goal of most zoos should be to provide an educational experience as well as a day's diversion. The two goals need not be mutually exclusive however, as an educational experience framed in the right way can enhance rather than diminish the "fun factor" of a day at the zoo.

If one was to enter a zoo or aquarium today and take a look around, it would be obvious that the most prevalent type of interpretation consists of various types of 'passive interpretation' in the form of signage. These "read only" signs most often consist of blocks of text paired up with several pictures of the subject matter being described. While this type of education does have a positive effect (Mallapur, 2008), and it is important to have this information available for those who wish to educate themselves, its use has been shown to be low among most of the visiting public (Bashaw, 2001).

A study by Derwin et al., found that 91% of visitors to an exhibit read one interpretive sign, however only 30% read three or more signs. Additionally, those who did not read any interpretive signs were unable to answer knowledge-based questions about the animals the exhibit contained (Derwin, 1988). It is also worth noting that as a visitor repeatedly visits an institution, the likelihood that they will read interpretive signs begins to decrease. (Davis 2009) This would suggest that a different approach is needed to both spark and maintain the interest of zoo visitors. While an organization could invest in a potentially expensive system of replacing signs before they become "stale" and are ignored by zoo regulars, this does nothing to attract the attention of the "rookie" guests. However, interpretive talks given by keepers and volunteers have the ability to change at each occurrence and they offer interactive opportunities to capture the attention of those who would otherwise ignore educational material.

Implementing chats by keepers and volunteers adds another layer of interpretation to zoo exhibits, thus enabling visitors to

get more educational value from the institution and allowing the zoo to have a greater impact on those visitors. (Weiler, 2009) A challenge in adding these types of keeper run visitor experiences is that there are several different approaches that can be used, some more effective than others. Choosing the right approach for the right situation and ensuring staff is properly trained to execute the aforementioned approach is a unique challenge that faces the zoo and aquarium field.

We are allowed a unique opportunity in zoo settings to have the subject of our educational talks close at hand and in the flesh, allowing us to present our programming in a much different style

**Implementing chats by keepers and volunteers
adds another layer of interpretation to zoo exhibits,
thus enabling visitors to get more educational
value from the institution and allowing the zoo to
have a greater impact on those visitors.**

than a textbook or television program ever could. Combining the physical presence of the animals with an interpretive talk has been shown to boost retention rates of the information that is presented (Heinrich, 1992), especially when the interpretation is given during an animal training session (Anderson, 2003). This information implies that one approach that could be taken to improve visitor education and experience is to perform keeper chats in tandem with routine training sessions. This is a perfect opportunity for zoo staff, since many animals already require multiple training sessions throughout the day as part of their normal routine, so the additional investment to create learning opportunities from these sessions is minimal. The greatest barrier would seem to be ensuring that interpretation does not interfere with training. For example, if the animal being worked with is new or otherwise wary of humans, interpretation may attract a crowd of onlookers which may then alter the animal's performance. It would be wise to assess the temperament and reliability of the animals involved before designing a keeper chat around their training sessions.

When training opportunities are not an option, there are still many other possibilities for interpretation that are available. Simply having a keeper or docent present at an exhibit to answer questions can increase the amount of time a visitor spends viewing that exhibit. (Jackson, 1994) This offers up a great opportunity for informal interpretation as keepers can simply make themselves available to visitors during any unstructured time they might find themselves with throughout their day. However, while it does appear that guests remain at exhibits longer when there is a keeper or docent present, the

The following paragraphs include several chat components and suggestions on how to get the most effectiveness from each aspect.

Animal visibility

Quite obviously, one of the main reasons visitors come to zoos is to view in person animals they may normally only see in books or on television. Thus it should come as no surprise that the time visitors spend at an exhibit is quite strongly linked to the visibility of the animals it contains (Davis, 2006). Thus it is in an educator's best interest to ensure that the animals they are speaking about are visible to their audience. Providing enrichment items to animals can be a successful way to increase animal visibility, and at the same time showcase naturalistic behaviors that can be used as a further topic of discussion in the educational chats.

Determining your theme

A scattershot approach where visitors are simply bombarded with animal facts can end up messy and disjointed with an audience only taking away one or two facts they happened to find interesting. By establishing beforehand what the main point of the talk is going to be, an interpreter will have a better narrative flow allowing guests to package the presented facts under a cohesive theme.

Establishing your rules

Establishing boundaries is a good idea for educators in any setting, but is especially necessary in animal institutions where the speaker may be handling an animal while they are simultaneously giving a speech. Setting ground rules before the talk begins is a helpful preventative measure when it comes to possibly avoiding potentially hazardous animal situations and having to interrupt the flow of the chat to reprimand a rule breaker. Having a strategy in place to deal with those who do ignore the rules is also good practice, ensuring the presenter will be able to remain calm and comfortable in unexpected situations.

Evaluating your audience

The makeup of the audience may also determine how one conducts most of their talk. Depending on the demographic, the presenter may want to tailor the language of his or her chat to the age level of the visitors. Words which are overly technical or scientific may alienate those who are unfamiliar with the terminology (Korsch, 1968). In a zoo setting it is also important to recognize that "zoo jargon" which may be commonplace to those working in the industry may be foreign to visitors. Frequently used phrases such as behavioral enrichment, positive reinforcement, shifting, and stationing are often unknown to most non-animal professionals. Depending on the age and education level of the audience, even simple expressions such as endangered, prey, and scavenger have been met with blank stares on occasion. It is best to pay attention to cues from the audience, and if in doubt try following any potentially perplexing phrases with brief one sentence definitions.

time guests spend at exhibits is effectively doubled if there is a training session involved (Anderson, 2003). Therefore it would definitely be preferential to involve training in interpretation sessions whenever possible, however the opportunity to perform unstructured chats is more frequent and the investment in keeper time is much less.

"Keeper for a day" type encounters, wherein guests pay for the privilege of shadowing a keeper, are great opportunities for education as they offer focused one on one or small group experiences. While the time investment for keepers is high, it can be an optimal occasion to make a large impact on a small number of individuals through extended question and answer sessions and firsthand animal observation opportunities.

Performing any talk, either scheduled or informal, can still have a varying range of effectiveness depending on how it is performed. Paying attention to the details of the many elements that are present during a chat can improve audience attention and knowledge retention.

In the end, it is up to the keepers and volunteers to determine what approach works best in any given set of circumstances. There is always room for improvement even in the most refined forms of interpretation and one should seek feedback from visitors and peers in order to constantly enhance their presentations. When done properly, not only will an interpreter see an increase in sustained attendance at their chats, but also an increase with their own satisfaction with the talks they give, as a successful chat is enjoyable for all parties involved.

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HOPE FOR POLAR BEARS AAZK Trees for You and Me! Getting Started



Once again, it's time to join Trees For You & Me! Here's how:

First step: Read about the 2014 campaign <http://www.polarbearsinternational.org/media/documents/2014-trees-you-me-campaign-faq>

Second step: Let us know your Chapter is going to compete. Please send the following to AAC@PolarBearsInternational.org:

- Coordinator's Name
- Chapter Name
- Institution Name
- Phone Number
- E-mail Address

Registration ends **January 1, 2014**, but the competition begins now!

Third step: Make a plan around these deadlines:

- Oct 1, 2013 Kick off Trees For You & Me fundraising effort.
- December 31, 2013 Report funds raised at the official half-way mark.
- January 1, 2014 It's not too late to sign up for the spring final challenge!
- March 3, 2014 Report funds raised as of March 1 at midnight MDT.
- November 1, 2014 Complete local planting or donation and report to PBI on My Planet, My Part.

Here are some fundraising ideas:

Bake sales, polar plunges, Putting for Polar Bears miniature golf events, garage sales, silent auctions, fun runs, spaghetti dinners, car washes, recycling programs (for ink cartridges, toners, digital cameras, and cell phones), animal-art sales, Pennies for Polar Bears drives, raffles, concerts ... The sky's the limit!

Our advice: Keep it simple, make a list, break big projects down into manageable steps, delegate the workload, and have touch-base meetings to see how everyone is doing on their tasks.

Fourth step: Follow AAZK policies for reporting, just like for Bowling for Rhinos in the re-chartering packet.

Fifth step: Be creative and have fun!

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Epilepsy Monitored and Diagnosed In a Female Breeding Maned Wolf

*Michelle Witek, Carnivore Keeper
Houston Zoo, Inc.
Houston, Texas*

**Pictured above: 0.1 Maned Wolf
Chrysocyon brachyurus "Lucy"
(Photo courtesy of Dale Martin, HZI)**

Abstract: This paper catalogs the observations, monitoring, and diagnosis of 0.1 Maned wolf *Chrysocyon brachyurus* "Lucy" at the Houston Zoo. This work will follow the steps the carnivore team and the veterinary staff at the Houston Zoo went through in order to properly monitor, diagnose, and treat a young female Maned Wolf who is currently listed as the number one ranking female in regards to mean kinship value with the "Species Survival Plan" (SSP) breeding program and was carrying offspring.

Background and Introductions

0.1 Maned wolf *Chrysocyon brachyurus* "Lucy" was born on March 3, 2004 (See Figure 1 below). Lucy was acquisitioned by the Houston Zoo on September 2, 2009 when she was five-years-old. She came to the Houston Zoo from Baton Rouge (BREC) on a breeding loan (owned by IBAMA-Brazilian Institute of Environment and Renewable Natural Resources) to breed with 1.0 Maned wolf *Chrysocyon brachyurus* "Seis", who was seven-years-old at the time. Lucy was the third female to be placed with Seis

at the Houston Zoo, and he had shown very little interest in the previous two females. After Lucy's one month clinic quarantine was complete, she was moved to the Maned Wolf exhibit's back holding area. Lucy was separated from Seis to await formal introductions the next day. Seis and Lucy had other plans. By that afternoon they had dug a hole underneath the adjoining fence and introduced themselves. They had been together for an undetermined amount of time before they were noticed by Carnivore keepers. They were getting along very well so they were left together and the introduction process was considered complete.

Breeding/Seizures

With breeding season fast approaching, their initial interest in one another continued and breeding behaviors were observed in November of 2009. Unsure if Lucy was indeed pregnant, a tentative due date was calculated from the first day breeding was observed. A camera system was set up in an adjoining barn for overnight

surveillance for minimal disturbance. Exactly 61 days later, Lucy gave birth to a single pup, born on January 13, 2010. She carried the pup a lot throughout the day, in and out of den boxes, but did not harm it in any way. She took care of the pup for 24-36 hours, but unfortunately we lost the pup overnight due to ingestion by one of the parents. Since she and the father were left together, in compliance with the SSP breeding protocol, we are unsure which wolf consumed it. The camera system was set up and operating, however due to a faulty DVR it did not record overnight, so what happened is unknown. Even after our unfortunate loss, hopes were high for the next breeding season, since they seemed to be very interested in one another and capable of producing offspring.

Lucy's first seizure was seen by staff in the early afternoon of June 30, 2010, almost six months after giving birth to her first litter, the singleton pup. At this time, cameras were not yet set up for breeding season or puppy watch, so it was unknown if Lucy had experienced prior seizures. Her former institution was contacted but they had no record or observations of seizures during her time

...she has had 15 observed seizures, 17 sedations which included two major surgeries, two pregnancies and one pseudo-pregnancy.

there. She was monitored throughout the day for a week with no other seizures observed. Due to her lethargic behavior, Lucy was sedated on July 1, 2010. She received an overall checkup including ultrasound, radiographs, and blood collection, but no apparent cause for the seizure or lethargic behavior was found. No other seizures were observed for the next few months and breeding season had returned.

Seis and Lucy did breed again that year. We observed breeding in the fall of 2010. The camera system was once again set up for puppy watch and fully functional, with the ability to record overnight, by the middle of October. We did not see any signs of seizures until November 27, 2010. On the morning of the 27th a very large puddle of fluid was found in the den box, located in the barn, along with small amounts of fresh blood along the walls.

The keeper watched the video from overnight and observed Lucy having a seizure inside the den box around 0530 hour, which lasted 20-30 seconds. She appeared to hit her head on the side of the den box during the seizure, and may have bit her tongue, explaining the blood. She was quick to recover and within minutes had moved to another den box. We continued

to monitor her and watched the videos if we saw anything abnormal. She had another seizure on the morning of December 4, 2010 at 0730. After reviewing the video it was observed that she had another seizure, approximately 12 hours earlier. Both lasted approximately 30 seconds and she was quick to recover from each. A scheduled sedation took place two days later on December 6, 2010 where blood was collected, fluids, and B vitamins were administered. It was also confirmed via ultrasound that Lucy was indeed pregnant with at least one pup. After the veterinarians did some research, and consulted with specialists, they decided to place Lucy on an anticonvulsant. She was prescribed Potassium Bromide (KBr) on December 12, 2010, which was considered the safest medication for Lucy and the unborn pups. She was given a higher initial dose of one tab (500mg),



**Figure 2: Diego and Dora
(Photo courtesy of HZI)**

four times a day, for four days. It was then dropped to one tab (500mg), two times a day (BID), which is where the dosage remained as a maintenance drug.

Lucy had another seizure on December 18, 2010 at 1100 which lasted about 30 seconds but it took her over 90 minutes to recover from this seizure. Lucy gave birth to five pups on December 30, 2010; 63 days after a keeper observed the wolves successfully breed. She was in labor for most of the morning but was very attentive and motherly throughout the birth of each pup. She continued to be attentive to the pups and allowed them to nurse for the majority of the day. Unfortunately, she got restless later that evening and began attempting to move the pups. She ended up leaving one outside the den box which was then picked up by the father, Seis, who carried it around for 10-15 minutes. When the keepers went in to see where Seis had taken the pup they noticed he appeared to be chewing on something. They immediately went out into the yard and Seis moved away, however they were unable to find the pup. It was assumed Seis had consumed it. Lucy was with the remaining four pups throughout this time and had calmed down enough to allow them to nurse. She got restless a second time and began moving the pups and she again left one outside the den box. The decision was made to pull the remaining four pups at this time. They were pulled without incident and taken to the clinic for hand-rearing. We lost the two smaller pups in the weeks that followed due to medical issues, but the two larger pups (Figure 2: Page 467) were successfully hand-raised by the carnivore and clinic staff at the Houston Zoo.

Lucy returned to normal behavior very soon after giving birth. She had a scheduled sedation on January 18, 2011. She was taken to *Gulf Coast Veterinary Specialists* for an MRI (magnetic resonance imaging) of her brain to scan for any abnormalities, and CSF (cerebral spinal fluid) collection, to evaluate the fluid surrounding the brain and spinal cord, for possible infection or inflammation. Blood was once again collected to check her bromide values and fluids were administered. No abnormalities were found on the MRI and results from the CSF analysis were normal. At this point, with no other evidence to the contrary, Lucy was diagnosed with *idiopathic epilepsy*, or repeated seizures from an unknown cause. She was continued on Potassium Bromide (KBr), one tablet (500mg), BID until further notice. We continued to



Figure 3 and 4 above : (2 views) Camera monitoring system with 4 separate cameras; 1 in each den box and 1 covering partial exhibit
(Photo courtesy of Michelle Witek, HZI)

monitor her via the camera system even after she gave birth and the pups were pulled. Keepers closely monitored signs from Lucy that may have indicated she had experienced a seizure. Her next observed seizure was not until February 9, 2011 and another followed on February 17, 2011. These two seemed to be longer

in length, lasting almost one minute, with multiple minor seizures following the major Grand Mal seizure. She was sedated again on March 10, 2011 to collect blood and check her bromide values to determine if the medication was at an effective level. On the morning of March 16, 2011 her primary keeper observed

behavioral signs of a seizure from Lucy. She was very slow to come out of her den box and once she did the keeper noticed Lucy was not using her rear left leg at all. The veterinarians were notified and the keeper attempted to watch the video but due to camera malfunction overnight, the camera in the den box in which the seizure occurred was not working. The seizure, most likely, occurred between 0800 and 0900 that morning. Lucy was seen going into the back den box shortly after 0900 where her injury was apparent. She was sedated and radiographs confirmed she had a spiral fracture, which refers to a break caused by a twisting force, in her left femur. She was immediately taken to *Gulf Coast Veterinary Specialists* where her leg was surgically stabilized with a pin, inserted into the medullary canal of the bone, and a steel plate secured with screws.

She spent the next three months in the carnivore ward at the Houston Zoo's veterinary clinic and underwent six sedations for numerous medical procedures including; blood collection, e-collar placement and removal, surgery site clean up, suture placement and removal, as well as the plate removal. Her medications were also adjusted during this time. Her Potassium Bromide was increased initially, once admitted to the clinic, to two tabs (500mg) BID but was quickly decreased to 1.5 tabs (500mg) BID due to ataxia, or the lack of coordination during muscle movement, in her legs causing her to be very unsteady and disoriented. The final dosage change was to 1.25 tabs (750mg) of Potassium Bromide BID until further notice. She was moved back to the maned wolf yard and reintroduced to Seis in June of 2011 with no other seizures observed.

At the end of November 2011, breeding behaviors were again observed between Seis and Lucy. During that time Lucy was also experiencing a drastic decrease in appetite to the point where she had not received her anticonvulsant medication in a few days. She was sedated on December 16th and after a urine culture was complete it indicated that Lucy had a bacterial urinary tract infection (UTI). An ultrasound was given during this sedation as well, but nothing conclusive was seen in relation to pregnancy. At this point Lucy would have been no more than three weeks pregnant. Lucy was placed on medication for her UTI and an appetite stimulant, mirtazapine, in order to encourage her to take her medications. She began eating well, even after the

appetite stimulant had been weaned off. Carnivore staff began watching the video overnight in the middle of January in anticipation of puppies. Lucy had gained a significant amount of weight in a short time and was displaying some nesting behaviors. Her appetite drastically decreased again in late January. She was sedated on February 12th after the two week mark past her due date. Once at the clinic it was observed that she was lactating. Radiographs were quickly taken to determine that Lucy was not pregnant but she was experiencing a "pseudo-pregnancy". She recovered well but did have another seizure in late February 2012. On March 14th she had three seizures within four hours. On March 29th she had two seizures in twelve hours, all lasting about one minute. As a result of the multiple seizures she was placed on another anticonvulsant, Phenobarbital (Pb), in combination with her Potassium Bromide (KBr). Once the dosage of the new medication is stable and she is in better physical condition she will be scheduled for an ovariohysterectomy and will no longer be part of the maned wolf breeding program.

Conclusion

From Lucy's first seizure witnessed on June 30, 2010 until present, she has had 15 observed seizures, 17 sedations which included two major surgeries, two pregnancies and one pseudo-pregnancy. We continue to monitor Lucy on continuous video surveillance, both overnight and throughout the day. The camera system has been re-routed, re-wired, re-programmed, re-adjusted, and transported more than a dozen times, each with its own complications (Figures 3 and 4: shown above). The cameras only cover approximately 30% of the entire exhibit and holding areas with focus on the den boxes, so our view is limited. We will continue to monitor Lucy as best we can with the system we have, but it is not perfect, therefore, neither are the observations we make. It takes the carnivore staff approximately one hour per day to watch 24 hours of video but it is necessary as Lucy's health is the most important aspect of this situation. Lucy has retired as a breeding animal and is scheduled for spay later this year. The continued monitoring from her keepers, and excellent treatment from our veterinarians, will help to ensure that Lucy will continue to be healthy and maintain a good quality of life. 🐾

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BABY STEPS: Developing Our Own Conservation Habits

Janée Zakoren
Zoo Keeper
Sequoia Park Zoo
Eureka, CA

Zoo keepers are all alike. We are a class of professionals that are often over-worked, under-paid, and yet still love getting up and going to work every day. Why? Because we are a group of individuals that are passionate about the animals we care for and the preservation of the natural habitats of their wild counterparts. Zoo keepers spend their days working hard to clean exhibits, develop and perform successful training techniques, create new and exciting enrichment, and educate the public. For guests of all ages, interacting with zoo keepers is nearly as exciting as seeing the animals. On the website www.animaltraining.org, Kathy Lehnhardt, Curator of Education for Disney's Animal Kingdom, indicates that these types of interactions often provide "an inspirational connection that lasts a lifetime and can sometimes be a life-changing experience." Zoo guests want to hear from the people who take care of the animals. For this reason, zoo keepers are in a unique position to be first-hand educators. Whether you are a person who loves keeper talks or hates them, it has become a significant part of our job not only to inform the public about the animals we care for and the fun facts that go along with it, but also to educate guests about conservation and preserving biodiversity.

On any given day, keepers may find themselves speaking with zoo visitors on topics varying from the importance of reusable water containers or shopping bags (and not just for groceries!) to the devastating effects of the unsustainable production of palm oil and the numerous consumer products containing it. Whatever topic we discuss, we are attempting to build a deep connection between zoo visitors and nature. Ultimately, we are trying to provide our guests with some sense of personal responsibility in the aid of conservation. We encourage them to become agents of change. We provide an action they can perform which enables them to become environmental stewards. Ideally, zoo visitors walk away with a new-founded or reaffirmed connection to wildlife and a slight ego boost. All in a day's work for a zoo keeper. But when we go home and take off our uniform, are we practicing what we are teaching? Are we being the environmental stewards we hope our zoo guests become? Recently, I was having lunch with a colleague of mine and I noticed that one item in her lunch was a product that contained palm oil from a company not participating in RSPO or otherwise. When I asked her if

she was aware of the ingredients in her tasty treat she replied, “Oh no, I had no idea. I really do need to get better about checking labels.” This response sparked an entire lunch time conversation in which we discussed taking personal responsibility, developing sustainable and environmentally-friendly habits, and how we can actually *form those* habits in order to be better stewards ourselves. After lunch, I thought about it and recalled several incidences in which I have personally witnessed keepers from all around the country exhibiting behaviors that were most certainly not conservation-minded. I realized that there are zoo keepers all over talking the talk, but not necessarily walking the walk. If we hope to set an example and be leaders in conservation and truly *bring it home*, then we too must commit to the behaviors which positively affect the health and sustainability of our planet and all of its inhabitants.

As keepers, we already engage in a lot of great environmentally-sound behaviors, but that does not mean we cannot do more. It is so easy to get bogged down in our daily routine that we often get lazy and ‘cheat’ on our good behaviors. Think about it; we work with animals every single day and part of our job is to train them. During training, we shape behaviors and work consistently until they are completely established. But there are days that animals may not want to cooperate, are feeling lazy or just do not want perform the task you have asked of them. As the trainer, you are entirely aware the animal is capable of what you are asking of them and you are persistent until they completely step on the scale, or fully touch their nose to the target stick. The same should be true when shaping our own behaviors. We are our own trainers, so we must stick to the shaping plan we have laid out for ourselves and be persistent. And just like with our training at work, we must sometimes stop, re-evaluate our plan, and adjust our approach. Today I would like to help you to re-evaluate your own personal at-home conservation plan and share some suggestions for avoiding complacency. By continually pushing ourselves to do more, we will continue to grow as individuals and as leaders in environmental action

The first step in re-evaluation and making a change is starting with yourself and establishing personal responsibility. But what *exactly* does that mean, “personal responsibility”? When breaking it down it is easy to see: “Personal” = you, your

person, your being. And then there’s “Responsible” = literally ‘response – able’ or having the ability to make a decision. When we decide to be environmental stewards and take personal responsibility, we have to be willing to make those decisions that may not be so easy or enjoyable at the time, but in doing so we will confidently re-enforce our environmental ethics and allow us to lead others by example. T’Noya T. Gonzales

**One of the biggest challenges
we face when making the
decision to form new habits is
not the change itself; instead,
it is the approach we take in
making the change.**

wrote in her 2012 AKF article titled “A Conversation for the Conservationist” that beginning with strengthening our core, which for most of us includes ourselves, our families, friends, and co-workers, is the best way to push ourselves to the next level. And she is absolutely correct. Our actions, no matter how large or small, have significant impacts over time on those around us. Actions at home will eventually begin to trickle outward to your family members, then your friends, etc. The ripple effect is nothing new, but it is something we all should be reminded of from time to time.

Now we need to define precisely what it is that we are going to do differently in our daily routine. According to *Psychology Today*, old habits are hard to break and new habits are hard to form. That’s because the behavioral patterns we repeat most often are literally etched in our neural pathways. The good news is that through repetition, it is possible to form new habits. For most of us, it is easy to read an article and reflect upon what we are already doing. We may even change our behavior slightly for the first week, but before we know it nothing has really changed, and we are back to our old ways. So let’s address exactly how we are going to develop and maintain these environmentally-friendly habits. The first step is to take ten minutes of your time to sit down and write a detailed list of all the “sustainable” actions you are currently engaging in.

This list should include two columns: one listing your activities and a second column for how frequently and faithfully you are engaging in those behaviors. This list should contain everything you do. From your consumer habits (e.g. shopping locally, purchasing organic and sustainably produced food products, avoiding products containing palm oil and writing to those companies that use palm oil expressing the importance of using sustainably grown palm oil only, etc.) to your personal lifestyle choices (e.g. taking re-useable food containers to restaurants for your leftovers, cutting down on home energy costs by using a laundry line and programmable thermostats, bringing re-useable bags for shopping, biking or using public transportation to get to work, home composting, or recycling every bit of paper, glass or plastic that comes your way, etc.). Your list may end up being several pages long because there are literally hundreds of things that we are doing every day to be ‘green.’ And when you visually see your list, pat yourself on the back and be proud of your accomplishments. But do not get complacent, because there is always MORE we can and should be doing.

So now that you have your list, add at least two more actions that you are not currently performing at all. If you cannot seem to think of anything new, simply Google “ways to be green” and you will find many options! Now, in the column under frequency write zero. Evaluation time! Now the column I want you to focus on is not the column listing the action itself but rather, the column listing the frequency of those actions. Look at every single item/action and evaluate whether you are acting daily (always), weekly (sometimes), monthly/seasonally (occasionally), annually (rarely), or never. Once you have completed your evaluation, it is time to reinvigorate our old habits and possibly form new ones! Pick at least two actions that you are performing on a limited basis and ramp them up a notch! Make the conscious decision to increase the efforts you are making and then start the journey of shaping your behavior. Easier said than done, right? WRONG!

One of the biggest challenges we face when making the decision to form new habits is not the change itself; instead, it is the approach we take in making the change. When we want to shape a new behavior with one of the animals we care for, we do not start at A and then jump immediately to Z. We take many steps to get there. So when starting to shape our own new behavior, start with a half habit, or baby steps. Instead of trying to do it all

at once, start small. If you are someone who loves a 30-minute hot shower, use a timer and cut out five minutes at a time. If you are someone who wants to bike to work, start with one day a week instead of all five. Whatever the habit is that you are working to improve, the key to success is starting small.

The second biggest challenge we face is time. Many habits do in fact, take time directly from us. For example, using public transportation will add additional time to your routine, or perhaps it does not operate during the hours you need to get to and from your desired destination, so this may not be a feasible option for you. However, this is no excuse because there are numerous other ways for each of us to develop sustainable habits. Perhaps you can find a friend to carpool with instead? Being short on time is no reason to remain stagnant. There are countless small adjustments and changes we can do here and there that require no extra time whatsoever. Start small and select habits which do not take an extraordinary amount of time, like switching all of your bills to online payment instead of traditional paper bills. Whatever you choose, the important thing to remember is that you are actively engaging in environmentally-friendly behaviors that CAN make change happen and, in doing so, you are setting an example for others to follow.

As we learned in our early science education, for every action there is a reaction. This is significant because other people will react to your behavior. Whether it is those individuals within our core group, or the guests you are speaking with at the zoo, or maybe even the person behind you in line at the grocery store. Regardless of who it is, with your insight, experience, knowledge, and actions you will be in an even better position to connect with and influence those around you to effect positive change. In order to be leaders in environmental action, we need to continue to grow as individuals and constantly push ourselves to do more. But after a long day of our physically demanding zoo keeping jobs we are all exhausted, I know. I am in that boat too. Some nights even sitting down to write a list of my sustainable and environmentally-friendly behaviors seems like a lot to do. However, I find inspiration and motivation in knowing that all of these green initiatives, no matter how

small, really do make a difference. The more we engage in these behaviors the more experienced we become and the better equipped we are to be effective educators. This is extremely valuable when engaging with people and especially zoo guests. We can connect with them about our own experiences, challenges and even offer advice. This type of interaction can help them to understand how they too can participate in conservation and aid in the preservation of biodiversity. Additionally, this allows us as zoo keepers to be confident that we are true to our words and are practicing what we are teaching.

About a week after the conversation with my colleague, we had lunch again. She informed me how our discussion sparked the motivation she needed to become more aware of palm oil products. She even shared the information with her six-year-old daughter, who is now well on her way to becoming a conscious consumer by reading ingredient labels and selecting products that are free of palm oil all on her own. This is simply one small example of the rippling effect zoo keepers can have. And as I continue to work on growing my own list of good habits, I am reminded that change is not easy. When facing the task of reinvigorating and developing your own habits, be persistent and patient because change does take time. And remember the importance of regularly reassessing your list and the approaches you are taking. Never stop growing or striving to accomplish more.

Every day that passes is another day we will never get back. Generationally speaking, we have an opportunity to make a huge impact on this planet. We can either choose to make a positive difference and leave a wonderful legacy for future generations or we can choose to be idle, settled in our old comfortable ways, and observe the decline in the health of our planet and all of its inhabitants. As the old saying goes, "Be the change you wish to see

in the world." Our actions today, big or small, will decide what the future holds for posterity—which feels like a lot of pressure and is undoubtedly overwhelming. However, you are not alone and remember, baby steps. Before you know it, we zoo keepers will all have new, environmentally-awesome habits formed. We will have influenced countless others to follow our lead in the environmental movement of thinking globally and acting locally. But most importantly, bringing conservation "home" will truly be second nature to everyone on this planet.

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Let *Me* Get the Door for *You*

By Sarah Smolinski

Formally at Roger Williams Park Zoo

Providence, RI

CRATE TRAINING: ONE STEP BEYOND

Crate training is a useful behavior zoo keepers can employ to make husbandry easier and reduce stress for the animals in our care. Crating entails having an animal enter a crate and remain inside for a reward. The crate door is then closed and they are ready to be transported. This easily works in a free-contact setting, but what if you have a large or aggressive animal that you must work with in a protected-contact situation? I have seen crates rigged up to close the crate door with a pole or rope, jam the crate door with a broom handle, and then run in quick to secure the door, hoping the animal doesn't get out! Why risk it when you can teach your animal to do the work for you? My objective was not only to teach an animal to crate, but also to close the door behind it, thereby crating itself.

OPENING THE DOOR OF POSSIBILITY

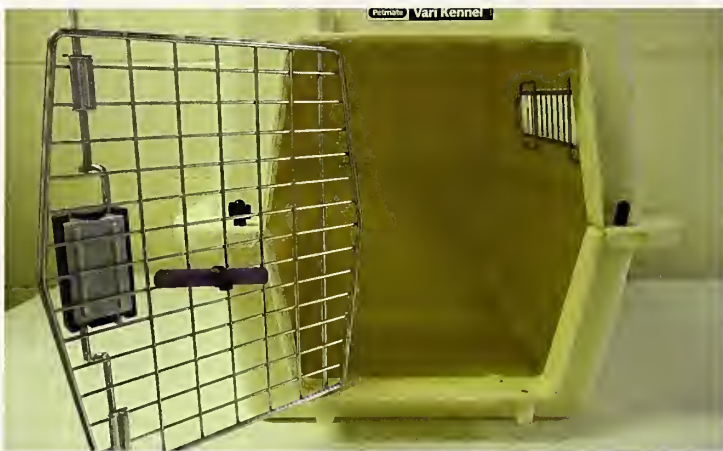
At Roger Williams Park Zoo we participated in a three zoo swap of White Cheeked Gibbons (*Nomascus leucogenys*) in an attempt to form better pairings. We were told to ship our five-year-old female White Cheeked Gibbon "Mason" to the Dallas Zoo. In order to make her shipment less stressful for both of us I began crate training her right away. The inside of our gibbon holding area has an enclosed "hallway" that was a great spot for this training, but it was covered with 1"x 1" mesh. I realized that I would have to think of a way to get the crate door closed and secure.

During Mason's basic crate training I observed something that inspired me to think beyond a rigged setup to close the crate door. We were in the middle of a session when the crate door swung half-way closed. I gave Mason the cue to enter the crate, to my surprise she opened the door and entered the crate. If she could open the door, why couldn't she close it? At this point I thought I could try to get her to close the door herself. During that same session I was able to jackpot her with a food reward

once for touching the crate door while she was sitting in the crate. In subsequent sessions I bridged and rewarded Mason for touching the door and jackpotted her for any pulling motion. During this time I focused less on the criteria for the "crate" behavior and more on her pulling the door closed. She was beginning to touch and pull the door whenever she entered the crate. I continued to reinforce her until she closed the door all the way. (I used a Petmate® crate with a dial latch that allowed the bars to recess and the door to reach a fully-closed position.)

At this point I was very excited at her progress, but we had a small problem; although Mason was successful in closing the door she held onto the top edge of it, meaning her hand and fingers could get injured if she did not let go right before the door closed. In order to make her door closing more consistent (and save her poor fingers) I had to think of a way to get her to grab the center of the door. My first attempt was to try to get her to target through the center of the door, hoping she would grab on and I could jackpot it. Her target was a wooden dowel with one end painted purple so it fit through the door, but it was confusing to her and very unsuccessful. My next attempt was to paint the middle section of the door purple, which again was unsuccessful. Finally I decided to cut the purple end of her target dowel off (approx. 2" section) and zip tie it to the inside of the crate door. This she understood! It took about two weeks to transition from holding the top of the door to grabbing the target in the middle and pulling. Although she was pulling the door from the target she still sometimes had her other hand on the top of the door. I reinforced when this did not occur to extinguish that behavior.

There were a few final issues that came up towards the end of training this behavior. When I began training her with the crate I handed Mason her food reward at the opening of the



Gibbon crate



Otter handle



Fixed Otter Handle



Pecan closing the door

crate. This resulted in Mason exiting the crate after performing the correct behavior to receive her treat. I wanted her to remain in the crate after closing the door, so I switched to feeding her reward through the back of the crate; it was more difficult to deliver food this way because I had to get the treat through both the cage mesh and the side “window” of the crate. Additionally Mason would sit in the crate and open and close the crate door repeatedly. I was unable to fully fix either of these issues before Mason was shipped out. If I had more time to resolve these issues my plan was to disassemble the crate and train Mason to “stay” – sit in the bottom half of the crate for fifteen seconds. Then I would have reassembled the crate and asked for all three behaviors: “crate”, “door”, and “stay”.

I OTTER TRY THIS AGAIN

Nearly the same time Mason was shipped out, Roger Williams Park Zoo received a wild born five-year-old female North American River Otter (*Lontra canadensis*) “Pecan” from the Salisbury Zoo. She had a history of aggression and we worked with her in a protected contact setting only. Pecan had been crate trained at her previous institution where they used a stick to close the crate door and secure it. I used this method to move Pecan once and it worked fine since the mesh in her exhibit was large enough to fit my hand through to latch the door. But when we moved her to a different exhibit the mesh was again 1”x1” which left me unable to fit my hand through to secure the crate door. I was excited to attempt to train this behavior with a different species, but I knew it would be more challenging.

I began by creating a handle that Pecan would be able to bite on and pull the door. I found some semi-rigid plastic tubing and cut an approximately three inch section. This tubing was durable enough that an otter would not be able to bite through it. I attached the tube to a clip using three zip ties (forming a triangle with the tube hanging horizontally at the bottom). I then clipped this handle to the exhibit mesh and began training Pecan to target to it. I had to stick a small smelt into the tube in order to encourage her to bite it. She caught on almost immediately and the “bite” behavior was established after a few sessions. The keepers at the Salisbury Zoo had also trained a great “hold” behavior which I included after “bite” to extend the amount of time she held onto the handle. I combined these two behaviors and then worked on adding “bite” after “crate”, with the crate positioned next to the handle clipped on the mesh. Pecan would enter the crate on command, turn around, step her two front paws outside of the crate, and bite the handle. Everything was working very well up to this point.

For my next step I affixed the crate door to the mesh and clipped the handle to it. We repeated the “crate” and “bite” commands with added reinforcement for any movement of the door. This was followed by reinforcing Pecan only when she made attempts to close the crate door. It was at this point that I made an error and caused both Pecan and myself some frustration. I fully assembled the crate with the door attached and the handle clipped to the inside. Pecan repeated her prior behaviors: enter the crate, turn around, step two paws out, bite on handle, and pull. I mistakenly focused on and rewarded door movement rather than the movement of the otter. Pecan would use her head and neck to jerk the door towards her but kept both front feet stationary. Once she was rewarded for this behavior there was no way for her to improve it except for jerking the door harder. This did lead to the door almost closing occasionally. Dr. Vint Virga, RWPZ’s training consultant observed a session and noted both of our frustrations. He suggested we take a step

back and work on the “pull” behavior. We decided to attach the handle through the mesh with a bungee so Pecan could have more movement while pulling. I set up the bottom half of her crate near the handle and rewarded Pecan for biting and walking back into the crate. This progressed into her pulling the handle into a door-less crate and finally attaching the handle to the fully assembled crate door. The big difference during these steps was that instead of rewarding Pecan for door movement, I was rewarding her for foot movement: first one step back, then another, then both paws in the crate doorway, and finally both paws totally inside the crate. We worked on completing all three behaviors seamlessly with verbal cues “crate”, “bite”, and “pull”.

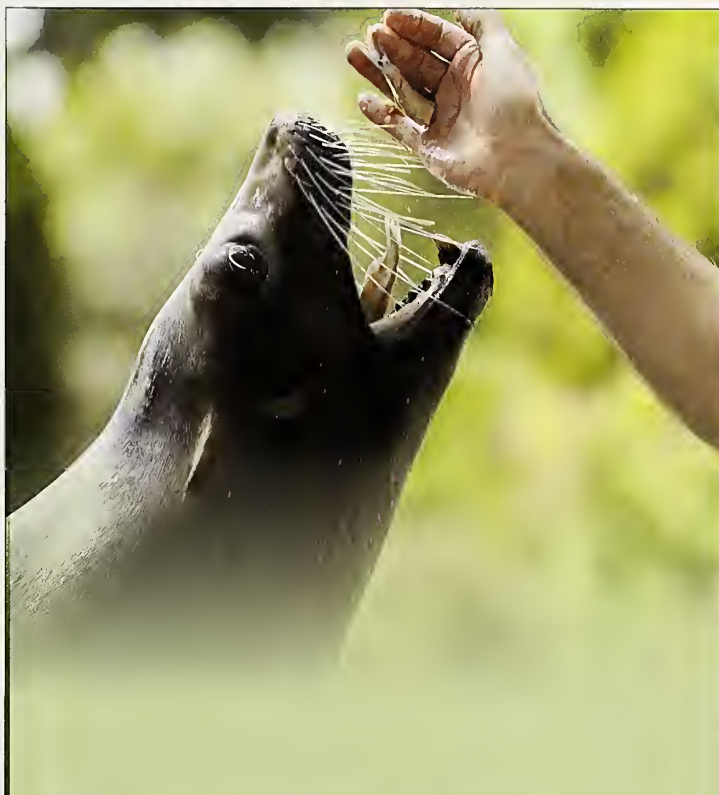
At this point Pecan had all the behaviors learned but a few technical aspects weren't working correctly. In order for her to grab the handle Pecan had to push the door all the way open so she could nuzzle it up with her nose first. This meant that if she got the door only partially closed and I asked her to “bite” and “pull” again she would have to open the crate door all the way and start over. To remedy this I took the tubing off the zip ties and put a small bolt through it. The handle now attached to the inside of the door and stuck out perpendicularly about two inches. Now she could grab the handle without so much door movement and the door was more responsive to her movement. The other problem she had was getting the door to close all the way. The gibbon, Mason, had slammed the door so hard that it would sometimes pop back open, so I had not experienced this problem before. While training Pecan, one of our animal care interns observed the problem. There was a tiny lip on the crate opening that the door was catching on. I found a small socket from a wrench set that I placed the bottom bar of the door through. It lifted the door up just enough to help it swing freely. After that adjustment, I placed the crate back into the exhibit and Pecan was able to perform the series of behaviors perfectly. Success!

I would like to thank the following people for their help and support: Vint Virga, Teresa Shepard, Melissa Ciccariello, Al Dercole, and my co-workers at Roger Williams Park Zoo and Omaha's Henry R. Gandy Zoo and Aquarium. All photo credits to the author. 🐘

BHC comments by Jay Pratte:

This article is an excellent example of a new approach to a common training behavior. Often we cannot go in with the animals we work with, whether it is due to aggression, potential zoonotic disease transmission, or even just needing to avoid being in an animal's territory/space. By teaching the animal not only to enter the crate on cue, but to close the door itself, we reinforce the behavior that we want WITHOUT immediately applying an aversive stimulus like slamming the door shut. The animal gets control of its environment, which is likely to lead to greater trust and a more solidly trained behavior.

The author also documents her challenges and steps well. She describes bringing in other observers to assist in problem solving, and this is a crucial aspect to managing a successful training program. No matter how skilled someone is as a trainer, we all become frustrated or have blind spots. Since everyone sees the world differently, new sets of eyes lead to new ideas, which provide any trainer even more options and tools for succeeding. Great job and thank you for sharing your Training Tale!



We want to hear your Training Tales

– the good, the bad and the fabulous!

Please submit your “Training Tales” and experiences in operant conditioning to share with *Animal Keepers' Forum* readers. This opportunity provides a convenient outlet for you to exhibit your training challenges, methods and milestones with the AAZK member network. Please submit entries based on the following guidelines:

1. Submit a brief description of a training project at your facility. These can be 500 words or less, in text or bullet points – it can be longer (up to 1000 words); however, short and simple descriptions with a few images are just as perfect. Details should include the following:
 - » Define the training goal (what did you try to do and for what purpose?)
 - » List important steps (How did you do it – include plans that changed along the way/what worked & what didn't work)
 - » Timeline used (how long did it take)
 - » Tips you learned along the way
2. Include 3-5 digital photos that clearly depict the animal in the learning process or performing the desired goal (provide photo caption and photographer of each image). Photos need to be 300 dpi and at least 1200 x 1800 pixels.

Please send entries or questions to: Kim Kezer at kkezer@zooneungland.com or Shane Good at shane.good@aazk.org (use Training Tales Submission as the subject).

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ENRICHMENT OPTIONS EDITORS:

Julie Hartell-DeNardo, St. Louis Zoo;

Ric Kotarsky, Tulsa Zoo;

Casey Plummer, Caldwell Zoo

It's holiday time, and that means evergreens! Evergreen trees, boughs and wreaths offer great enrichment opportunities for a variety of species.

As always, safety first! Ensure that your evergreens are free of pesticides, flame retardants and "greening" agents (chemicals commonly found in commercially available Christmas trees). Always ensure that the evergreen is not toxic to the species for which it is intended, and monitor animals closely for sensitivities, particularly with cedar. If recycling a tree, make certain that all decorations, tinsel and wire hangers have been removed.

Evergreens have numerous enrichment uses:

Sensory Enrichment: Evergreens have unique scents that appeal to many animals. Their presence may elicit scent marking, rubbing or anointing behaviors. If an animal cannot have an evergreen in its enclosure, it may still enjoy the scent or sight of an evergreen placed outside the enclosure. Boughs can be hung on a fence to create a visual barrier or provide shade or seclusion. They can be stacked into a teepee to provide a hide area. Trees or branches may be used as a rubbing station or scratching post.

Feeding Enrichment: Some animals eat evergreen trees, while others enjoy chewing the leaves or bark (ensure veterinary approval). Produce, biscuits and hay may be placed into (or speared onto) branches to make a foraging device.

Cognitive/Occupational Enrichment: Evergreens provide a variety of climbing and perching locations for birds, reptiles and small mammals. Some animals may strip the bark. Hoofstock (especially the males) enjoy sparring with evergreen trees. Elephants and rhinos enjoy battering the trees. Boughs, wreaths and trees can provide climbing and perching opportunities for many species of bird, reptile and mammal.

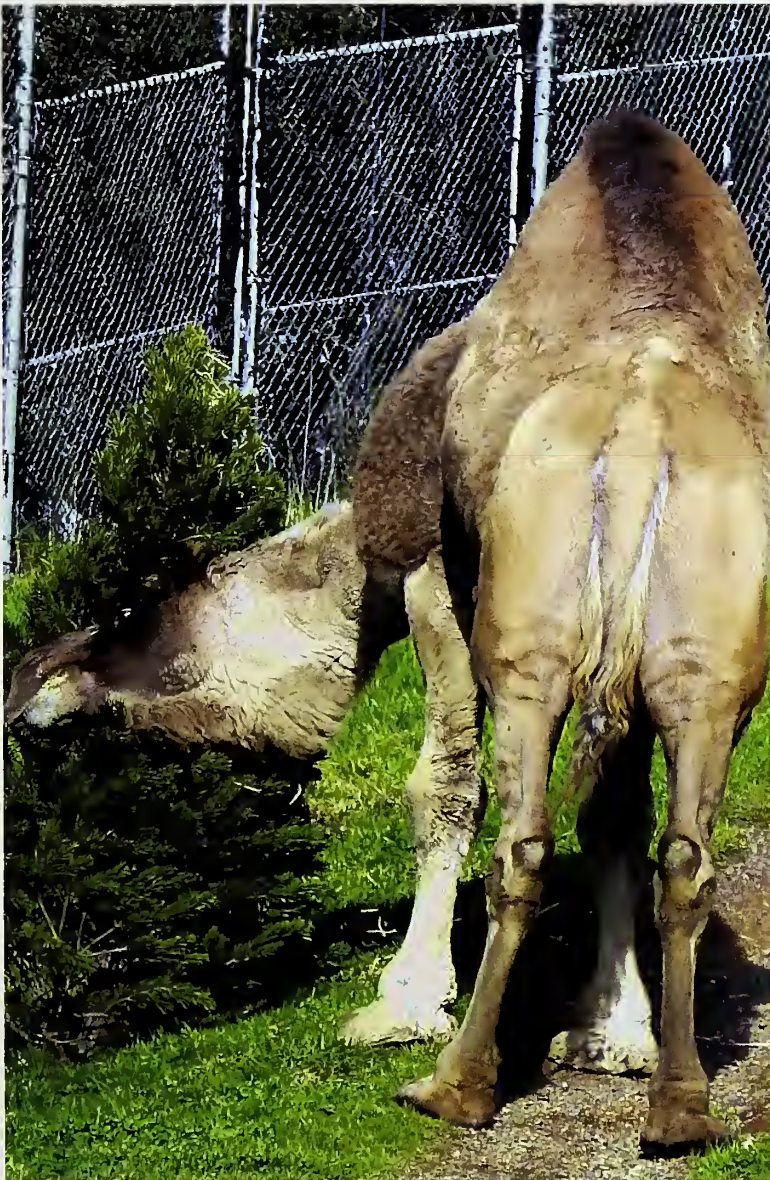
Be creative with evergreens! They can be placed upright in the exhibit, of course, but they can also be laid on their side, attached to a fence or post, even hung upside-down from a rope or chain.

On a final note, remember to "be green" when disposing of "used" evergreens – they can be ground into mulch or left to biodegrade naturally. Happy Holidays! 🐘





Animals enjoying evergreens.
Photos courtesy of Julie Hartell-DeNardo.



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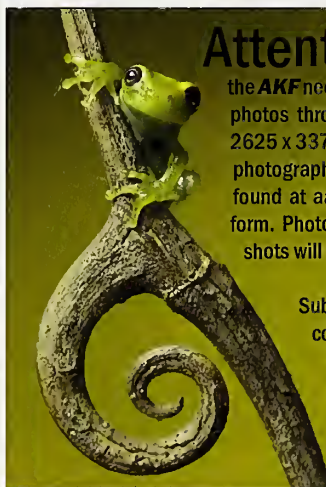
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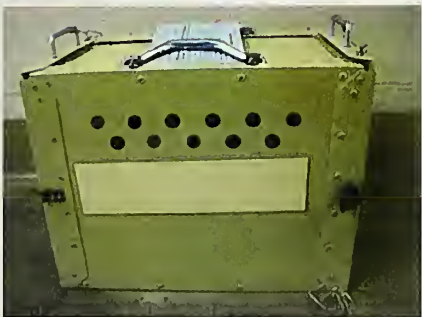
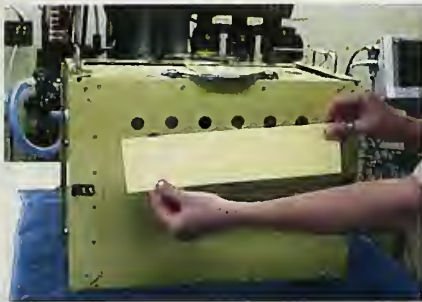


Attention all photographers,

the **AKF** needs your photos as potential cover photos and special feature photos throughout the issue. All photos need to be high resolution, 2625 x 3375 pixels or greater, and 300 dpi or greater in resolution. All photographers will need to submit a photo release form that can be found at aazk.org/animal-keepers-forum/aazk-photo-model-release-form. Photos that clearly depict facility logos and behind-the-scenes shots will need permission of the facility to be used.

Subjects for the photos should revolve around animal husbandry, conservation, education/interpretation, professional development, significant achievements in the industry (births, exhibits, staff, etc.), and can also include some of the more humorous or unique situations that we all come across each day in our occupations. Captions for each photo should also be submitted.





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